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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,181	01/28/2004	David James Seal	550-505	9851

23117 7590 11/03/2006		EXAMINER
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203		PATEL, KAUSHIKKUMAR M

ART UNIT	PAPER NUMBER
2188	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/765,181	SEAL ET AL.
	Examiner	Art Unit	
	Kaushikkumar Patel	2188	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>25 August 2006</u>.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,3-10,12-19 and 21-48</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) <u>28-48</u> is/are allowed.

6) ☒ Claim(s) <u>1,3,4,6-10,12,13,15-19,21,22 and 24-27</u> is/are rejected.

7) ☒ Claim(s) <u>5,14 and 23</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>28 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All . b)☐ Some * c)☐ None of:

    1. ☒ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____.

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This office action is in response to applicant's communication filed August 25,

2006 in response to PTO office action mailed May 26, 2006. The applicant's remarks

and amendments to the claims were considered with the results that follow.

2.   In response to the last office action, claims 1, 10 and 19 have been amended.

Claims ~228-42~ *28-48* have been added. Claims 2, 11 and 20 have been canceled. As a result,

claims 1, 3-10, 12-19 and 21-~44~ *48* remain pending in this application.

3.   The rejection of claims 19-27 under 35 U.S.C. 101 have been withdrawn due to

amendments filed August 25, 2006.

Response to Arguments

4.   Applicant's arguments with respect to claims 1, 10 and 19 have been considered

but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 3-4, 6-10, 12-13, 15-19, 21-22 and 24-27 are rejected under 35

U.S.C. 103(a) as being unpatentable over Mahon et al. (Hewlett-Packard Precision

Architecture: The Processor. Published: August 1988) (Mahon herein after) and further

in view of Killian et al. (US 6,282,633 B1) (Killian herein after)

As per claim 1, Mahon teaches apparatus for processing data (page 5, fig. 1),

said apparatus comprising:

a register bank having one or more registers operable to hold respective data

values (page 5, fig. 2);

a data access circuit operable to perform data access operations transferring one

or more data values between said apparatus and addressed memory locations within a

memory circuit (page 5, fig.1, column 1, paragraph 2); and

an instruction decoder responsive to data access program instructions to control

said data circuit to perform respective data access operations, each of said data access

program instructions including an address offset field that specifies an offset value and

including a base register field that specifies a base register within said register bank and

specifying a manipulation to be performed upon said offset value and a base address

value held in said base address register to form a memory address value to be

accessed within said memory circuit upon execution of said data access program

instruction (page 5, column 1, paragraphs 2-3, taught as execution unit performs data

transformations and moves data between memory system and fetch unit fetches the

instruction and decodes it. Also on page 7, column 1, paragraph 2 and column 2,

paragraph 5, teaches that all address calculation in LOAD and STORE instructions is

based on the base register plus displacement addressing mode); wherein

said data access program instructions have:

(i) a first form including an address offset field having a first address offset filed

length (page 20, fig. 8, first instruction labeled as LD/ST L); and

(ii) a second form including an address offset field having a second address

offset field length (page 20, fig. 8, second instruction labeled as LD/ST S/X), said first

address field length being greater than said second address offset field (page 7, column

2, paragraph 5, taught as displacement can be long 14-bit or a short 5-bit) and said first

form being capable of specifying a lesser number of possible manipulations to be

performed upon said base address value and said offset value than said second form

(page 7, column 2, paragraph 5, page 19, column 1, paragraph 8 to column 2,

paragraphs 1-2 and page 20, fig. 8, shows two types of LOAD/STORE instructions and

depending on their respective bit values first instruction can perform base value plus

displacement value and second instruction with sub-opcode and short displacement can

perform base address value plus displacement, or index register).

Mahon also teaches modified address values by adding and subtracting offset

values from base address value (page 7, column 2, paragraph 5).

Mahon fails to teach offset value as an unsigned value. Killian teaches using

unsigned (zero extended) value as offset value (col. 13, lines 20-21).

It would have been obvious to one having ordinary skill in the art at the time of

the invention to use unsigned value as offset as taught by Killian in the system of

Mahon to increase the offset range in positive side because positive offsets are more

common than negative range (see Killian col. 13, lines 22-24).

As per claim 3, Mahon teaches manipulation also allows at least one of the

following options for a data access operation:

using said base address value as said memory address value;

using said modified address value as said memory address value;

using said base address value and writing back said unmodified address value to

said base address register as said memory address value; and

using said modified address value and writing back said modified address value

to said base address register as said memory address value (page 7, column 2,

paragraphs 5-6, Mahon teaches base address plus signed displacement and use of

index register and use of base register for a subsequent load or store operation and

pre-modification and post-modification).

As per claim 4, Mahon teaches access control as privilege level (page 15,

column 2, paragraph 4).

As per claim 6, Mahon teaches modification specifier (page 20, fig. 8, page 7,

column 2, paragraph 7).

As per claim 7, Mahon teaches second form including manipulation mode control

field specifying which of plurality of different manipulations (page 19, column 1,

paragraph 8, taught as subop field).

As per claim 8, Mahon teaches instructions are disjoint (page 7, column 2,

paragraph and page 9, column 1, paragraph 1).

As per claim 9, Mahon teaches data values are transferred between registers

and memory (page 5, figs. 1 and 2 and column 1, paragraphs 2-3 and column 2,

paragraphs 2-3).

Claims 10, 12-13, 15-19, 21-22 and 24-27 are rejected under same rationales as

applied to claims 1, 3-4 and 6-9 above.

Allowable Subject Matter

7.   Claims 5, 14 and 23 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

8.   Newly added claims 28-48 are also allowed, as claims includes limitation from

previously allowable dependent claims 5, 14 and 23.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
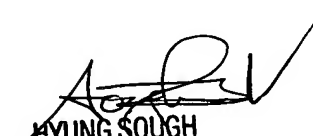
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaushikkumar Patel whose telephone number is 571-272-5536. The examiner can normally be reached on 8.00 am - 4.30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on 571-272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kaushikkumar Patel
Examiner
Art Unit 2188

kmp

HYUNG SOUGH
SUPERVISORY PATENT EXAM!'